



MAY 02 2000

April 28, 2000

U.S. Army Corps of Engineers, Walla Walla District
Attention: Lower Snake River Study
210 North Third Avenue
Walla Walla, WA 99362-1876

RE: Comments on Draft Feasibility Report and Environmental Impact Statement for
the Lower Snake River Juvenile Salmon Migration

Dear Mr. William E. Bulen, Jr.

Thank you for the opportunity to comment on this critical study. We recognize the extensive effort expended in the development of this report, but yet feel a significant element is missing, namely the post-Bonneville survival enhancement. Where direct linkage to the improved survival and recovery rates is made to the post-Bonneville survival issue, shown in your study, it must be considered in the overall picture. Until such information becomes available, drastic measures, such as dam removal must not be undertaken.

We further recognize the very sensitive nature of this study and have evaluated the study from a data and findings standpoint rather than upon emotions. To produce the results in its various combinations several assumptions were made, the validity of which is uncertain.

The attached comments are provided to you for inclusion into the public comment process.

Sincerely,

Kevin M. Casey
Kevin Casey
Acting Manager

Encl.

TO WHOM IT MAY CONCERN,
THIS FOLLOWS A FAX SENT
ON 4/30/00 TO (509) 527-7832
AT 2:15 P.M.

KEVIN M. CASEY
LOID ACTING MANAGER

LOID's COMMENTS

IMPROVING SALMON PASSAGE

DRAFT

The Lower Snake River Juvenile Salmon Migration Feasibility Report/ Environmental Impact Statement

The Lewiston Orchards Irrigation District (LOID) is located within the boundaries of the City of Lewiston, Idaho at the confluence of the Snake and Clearwater Rivers. The LOID was developed as a private irrigation project in the early 1900s. It later (1947) invited U. S. Bureau of Reclamation's participation by requesting federal funding to improve and update various system features. Since that time LOID has been partners with USBR in the operation and maintenance of the irrigation district.

Our interest in participating in this comment process is multi-faceted; 1- Due to recently initiated federal studies on Lapwai and Sweetwater Creeks involving habitat for steelhead we are concerned about any impacts to our irrigation water supply. 2- Further, since many of our patrons will be directly negatively affected by implementation of Alternative 4 thus affecting our rate generation capability to assure a properly maintained and operated water delivery system we are gravely concerned if this should become the preferred alternative. 3- And lastly since LOID relies solely upon groundwater for its drinking water source, any activity which would decrease well yields or lower existing groundwater levels would also be opposed. This last issue may become an issue if Alternative 4 is implemented.

The following alternatives were described in your report.

Alternative 1 - Existing Conditions

ACTION

EFFECTS

Every FREIS has a starting point from which all other alternatives are measured. Alternative 1 is the baseline or no action alternative under which the Corps would continue operating the four lower Snake River dams according to their current configuration, including all fish passage programs now in

operation. More than 50 percent of the fish would be transported via truck and barge, while the remainder would migrate in-river. This alternative does not mean that no further improvements would be made. The Corps, as part of its ongoing development plans and in response to changes in agency requirements, plans to improve technology at the dams to promote fish passage. The Corps' current plan calls for turbine improvements, structural modifications to fish facilities at Lower Granite Dam, new fish barges, adult fish attraction modifications, a new trash boom at Little Goose Dam, modifications to fish separators, added cylindrical dewatering screens, and more or improved spillway flow deflectors.

- No reservoir drawdowns
- No major changes to fish passage systems
- Slight reduction in extinction risks for listed stocks (CRI)
- Continued hydropower generation
- Continued navigational activity
- Continued irrigation and water supply
- No major economic impacts

Alternative 2 - Maximum Transport of Juvenile Salmon

ACTION

EFFECTS

Most of the improvements planned for Alternative 1 would also be included in Alternative 2. The emphasis in this alternative, however, is on operating the existing facilities to maximize the passage of fish through the existing collectors into trucks or barges for transport downriver. Voluntary spill to bypass fish would be minimized. Fish would be collected in the existing facilities and transported past the dams. Under this alternative, there would be no need to modify spillway flow deflectors, because voluntary spill would be minimized. Some juvenile fish would still pass through the dam turbines.

- No reservoir drawdowns
- Maximization of juvenile fish transport with current systems
- Optimized voluntary spill
- Slight reduction in extinction risks for listed stocks (CRI)
- Continued hydropower generation
- Continued navigational activity
- Continued irrigation and water supply
- No major economic impacts

Alternative 3 - Major System Improvements

ACTION

EFFECTS

This alternative, like Alternative 2, also maximizes transport of juveniles. It differs from Alternative 2 in that it incorporates a full-length surface bypass collector at Lower Granite Dam, which is the first dam juvenile fish encounter, thus the logical point to collect the fish. This new collection technology, in combination with existing bypass screens, would increase collection capability at Lower Granite Dam to 90 percent or higher and minimize the number of dams, bypass systems, and reservoirs that juvenile fish encounter. This bypass collector would span the powerhouse and work in conjunction with the existing extended submerged bar screens to divert fish from the turbines. At Lower Monumental and Ice Harbor, the existing submerged traveling screens would be replaced with bar screens to improve the collection or bypass of juvenile fish that originate from tributaries below Little Goose Dam.

- No reservoir drawdowns
- Installation of surface collectors and other structural changes to maximize both transport programs for juvenile fish
- Optimized voluntary spill
- Slight reduction in extinction risks for listed stocks (CRI)
- Continued hydropower generation
- Continued navigational activity
- Continued irrigation and water supply
- No major economic impacts

Alternative 4 - Dam Breaching

ACTION

EFFECTS

This alternative consists of breaching the four dams and creating a free-flowing 140-mile stretch of river. This would involve removing the earthen embankment section of each dam and eliminating the reservoirs behind the dams. Under this alternative, all facilities for transporting fish would cease to operate. A free-flowing river can be achieved by removing only the embankment. The powerhouses, spillways, and navigation locks would not be removed, but would no longer be functional, eliminating power production and commercial navigation.

- Removal of dam embankment
- Elimination of reservoirs
- Shut down of navigation lock
- Shut down of powerhouse
- End of juvenile fish transport program on the lower Snake River
- New fish and wildlife mitigation
- Protection of cultural resources

- Modifications to some reservoir facilities
- Moderate reduction in extinction risks for fall chinook and steelhead (CRI)
- Slight reduction in extinction risks for spring/summer chinook (CRI)
- Loss of hydropower generation; raised electric rates
- Loss of navigational capacity; impacts on other transportation systems; increased transportation costs
- High sediment movement
- Impacts to irrigation and water supplies
- Short-term gain and long-term loss of jobs and income
- Gain in recreation opportunities

Your own analysis suggested that selecting any single alternative may not produce the results desired by the National Marine Fisheries Service. The following excerpts are taken from your section labeled, "General NMFS Conclusions". The statements which are underlined and in placed in italics provide the basis for our concerns about selecting only one alternative or a combination.

"The PATH analysis indicated that dam breaching has the highest frequency of achieving the survival and recovery criteria of listed Snake River species. The relative benefits of Alternative 4 (Dam Breaching) were dependent on assumptions about the quantity of differential delayed transport mortality and extra mortality assigned to the hydrosystem. Only qualitative assessments were made for steelhead and sockeye. The PATH analysis could not determine extinction risk or determine whether any of the alternatives were sufficient for recovery.

The CRI analysis suggested that it is unlikely that any of the alternatives alone, including dam breaching, could recover spring/summer chinook, unless extremely large survival increases below Bonneville Dam are achieved. Additionally, theoretical habitat improvements, harvest management and predator control on their own are unlikely to recover spring/summer chinook. CRI analysis indicates combination of many management actions may be needed to achieve recovery.

Both fall chinook and steelhead reduction in extinction risk to acceptable levels, based on the CRI analysis, could be achieved through changes in harvest practices. Alternately, dam breaching (Alternative 4) could achieve recovery of fall chinook and steelhead if overall survival were increased by at least 20 percent.

The CRI analysis indicated that dam passage improvements and fish transport measures implemented since the late 1970s have likely prevented the extinction of spring/summer chinook and possibly others. The benefits of these actions on survival have been substantial. But both PATH and CRI analyses indicate that further improvements in the hydrosystem passage systems (e.g., spill, bypass improvements, transport)

are not likely to recover the listed Snake River fish unless these actions improve post-Bonneville survival, either through improved fish condition or improved timing of ocean entry."

1 It is clearly indicative from these statements that survival and recovery are not pointing towards one of the main culprits and that is the need for improved post-Bonneville survival. It appears that this critical part of the survival and recovery equation is noticeably missing from this study. The issues of theoretical habitat improvements, harvest management and predator control must become part of the overall survival and recovery picture. From a true technical position it would appear that until this issue is addressed it would be premature to select from any of the following alternatives and their anticipate impacts. Our concerns are once again shown here in italics and underlined.

"Alternative 1 Existing Conditions

Based on the CRI analysis, existing conditions do not meet NMFS' recommended extinction risk criteria for long-term conditions for any of listed Snake River fish stocks. The analysis indicated that the chance of extinction is high (1 to 15 percent) for the seven index stocks of spring/summer chinook in the short term (within 10 years), but is low for fall chinook and steelhead (less than 0.1 percent). The long-term (within 100 years) chance of extinction for all three stocks is 33 to 88 percent for seven spring/summer chinook index stocks, 6 percent for fall chinook, and 93 percent for steelhead.

The PATH analysis indicated that there is a 65 percent frequency of meeting NMFS survival criteria and a 50 percent frequency of meeting NMFS recovery criteria. These predictions are based on assumptions of high indirect mortality of barged fish.

NMFS noted recent information suggests indirect mortality of barged spring/summer chinook may be substantially lower than the estimates used in the PATH analysis, which would make the chances of achieving the recovery criteria much higher. PATH used four different hypotheses to predict results for delayed transport mortality in fall chinook. The fall chinook PATH analysis indicated there is a 80 to 99 percent frequency of meeting NMFS survival criteria and a 28 to 87 percent frequency of meeting NMFS recovery criteria.

For adult spring/summer chinook and steelhead, upstream passage survival would remain moderately high (high 90s percentile survival per dam and reservoir) but somewhat lower for fall chinook.

This alternative would have no effect on other anadromous fish in the Columbia River. Pacific lamprey and American shad would continue to have some passage losses in the Snake River.

Alternatives 2 and 3 Maximum Transport of Juvenile Fish and Major System Improvements

CRI analysis indicated that maximum transport of spring/summer chinook would reduce slightly the chance of extinction, improving conditions over Alternative 1. But the overall increase would not be sufficient to achieve the NMFS recommended reduction in extinction risk of spring/summer chinook. CRI analysis did not assess directly the effects of these alternatives on probability of extinction of fall chinook and steelhead, but these likely would remain similar or slightly improved relative to Alternative 1.

PATH analysis indicates that Alternatives 2 and 3 would have a similar but slightly lower chance of meeting NMFS survival and recovery criteria for spring/summer chinook and steelhead than Alternative 1, because they assumed high differential mortality. For fall chinook, the results would be very similar to those for Alternative 1. These results are, however, highly dependent on which delayed transport mortality assumption is used in the models.

Direct mortality for juvenile fish would be the lowest for Alternatives 2 and 3 because these alternatives maximize fish transportation.

Adult passage survival for Alternative 2 would remain similar to that for Alternative 1, but under Alternative 3 (Major System Improvements), it may be slightly improved because of the effects of the surface bypass collector.

These alternatives would have little effect on other anadromous fish in the Columbia River compared to current conditions. Pacific lamprey and American shad would continue to have some passage losses at the Snake River, but new screening facilities of Alternative 3 may be a slight benefit to Pacific lamprey over Alternatives 1 and 2.

Alternative 4 - Dam Breaching

The CRI extinction analysis suggests that Alternative 4, while better than other alternatives, may still be inadequate by itself to reduce the risk of extinction of summer/spring chinook stocks to what NMFS proposed as suitable levels. The CRI analysis suggests that this alternative is likely to be sufficient for recovery of fall chinook and steelhead, but only if the survival below Bonneville Dam, as a result of this action, increases by at least 20 percent.

Based on PATH analysis, this alternative offers the highest chance of meeting NMFS survival and recovery criteria for spring/summer chinook,

fall chinook and steelhead. NMFS indicated, however, that PATH analysis can not assess extinction risk or determine if breaching is necessary or sufficient for recovery. For spring/summer chinook, the chances are well above the survival and recovery criteria used by PATH. How much more beneficial this alternative is for juvenile fish over the other three alternatives depends on what the rates of mortality are due to delayed transport and extra mortality that may occur to fish passing through the hydrosystem. If lower delayed transport mortality rates occur than were modeled in the PATH analysis and extra mortality resulting from the hydrosystem had been low, then dam breaching offers a slightly better chance of meeting the NMFS criteria for survival and recovery than any of the other alternatives.

This alternative would increase the spawning area for fall chinook relative to what is currently available, which would likely increase the runs over other alternatives. There may be increased risk of stray Columbia River fall chinook (e.g., Hanford Reach, Umatilla and Klickitat hatcheries) stocks spawning in the Snake River, possibly mixing with and diluting the native fall chinook stock genetics. Steelhead would fare similarly, or slightly better than spring/summer chinook salmon. In the long term, adult passage survival may be higher or similar to that for the alternatives. There is, however, much uncertainty in predicting future adult passage conditions with dam breaching.

The beneficial effects of this alternative would not all be immediate. Dissolved gases would immediately decrease, and juvenile fish could travel the river at a natural flow rate. But for two or three years after dam breaching, adverse effects from elevated suspended sediment and possible burial of rearing habitat could occur. These may cause fall and spring adult migration delays for two or three years during and following dam breaching, as well as reduced subyearling chinook salmon rearing habitat quality in the Snake River. The movement of sediment may also reduce the quality of spawning habitats in the lower Snake River for many years following dam removal. Once sediments in the system stabilize, rearing habitat and fall chinook spawning habitat would increase.

Columbia River stocks that migrate through the McNary reservoir might also experience detrimental effects from the increased sediment and possible burial of rearing habitat. For two or three years following dam breaching, there might be fall and spring adult migration delays, as well as reduced yearling chinook salmon rearing habitat quality in the McNary reservoir."

Based upon the above issues which involve making certain assumptions, which may or may not be correct, not addressing essential issues such as methods of increasing survival post-Bonneville survival rates, and lastly seeing that various combinations of the alternatives provide varied results, there is only one rational decision that can be made. Don't take such drastic measures such as dam removal, rather focus on Alternatives 2

and 3 until studies can be completed on the post-Bonneville issue. Once this study is complete then a re-examination of these alternatives in a variety of combinations would produce the desired results of improved survival and recovery rates.

As a District, we are very supportive of efforts to preserve, sustain, and enhance the listed species and support programs which definitively lead in that direction. We will work cooperatively with NMFS, USBR and other federal agencies in evaluating steelhead issues on Sweetwater Creek.